

PATENT APPLICATION
Navy Case No.: 79,212

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

- 1-2. (cancelled)
3. (currently amended): A method for stabilizing ~~enzymes~~ a thioesterase comprising:
genetically engineering ~~an enzyme~~ the thioesterase to include one or more terminal
histidine residues;
copolymerizing an amphiphile containing a salt selected from the group consisting of
metal salts of iminodiacetic acid, nitrilotriacetic acid, and mixtures thereof with
other polymerizable amphiphiles to form vesicles; and
binding the genetically engineered ~~enzyme~~ thioesterase to the salts on the outer surface of
the vesicles;
~~wherein the bound enzyme is catalytically active.~~
4. (original): The method according to claim 3 wherein the metal salts are selected from the
group consisting of copper, nickel, cobalt, and zinc salts.
- 5-6. (cancelled)
7. (original): The method according to claim 3 wherein the salt is a metal salt of
iminodiacetic acid.
8. (original): The method according to claim 3 wherein the salt is a metal salt of
nitrilotriacetic acid.

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9. (currently amended): A method for stabilizing ~~enzymes~~ a thioesterase comprising:
genetically engineering ~~an enzyme~~ the thioesterase to include one or more terminal
histidine residues; and
attaching the ~~enzyme~~ genetically engineered thioesterase to salt groups selected from the
group consisting of metal salts of iminodiacetic acid, metal salts of nitrilotriacetic
acid, and mixtures thereof on the surface of a particulate inorganic carrier;
~~wherein the bound enzyme is catalytically active.~~
10. (original): The method according to claim 9 wherein the metal salts are selected from the
group consisting of copper, nickel, cobalt, and zinc salts.
11. (previously presented): The method according to claim 9 wherein the carrier is a metal
oxide ceramic particles that can be formed in the Stober process starting with a metal
alkoxide precursor.
12. (previously presented): The method according to claim 11 wherein the metal oxide
particles are selected from the group consisting of silica, alumina, baria, titania, and
zirconia.
13. (original): The method according to claim 9 wherein the salt groups are metal salts of
iminodiacetic acid.
14. (original): The method according to claim 9 wherein the salt groups are metal salts of
nitrilotriacetic acid.
15. (original): The method of claim 3 wherein the bound enzyme is capable of detoxifying a
nerve agent.
- 16-20. (cancelled)

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21. (previously presented): The method of claim 9, wherein the enzyme includes a terminal polyhistidine chain.
22. (cancelled)
23. (previously presented): The method of claim 9, wherein the bound enzyme is capable of detoxifying a nerve agent.
24. (previously presented): The method of claim 3, wherein the enzyme includes a terminal polyhistidine chain.
25. (new): The method of claim 3, wherein the bound genetically engineering thioesterase is catalytically active.
26. (new): The method of claim 9, wherein the bound genetically engineering thioesterase is catalytically active.